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ZOOLOGY AT THE UNIVERSITY OF CHICAGO.

TO THE EDITOR OF SCIENCE: My attention has just been called to the following statement in SCIENCE, No. 157, p. 993:

"The student of science may fairly ask whether, when twelve doctorates are conferred in zoology and but three in Latin and Greek combined, this means that there is less demand for teachers of the classics or that a less exacting preparation is required."

Such is the comment appended to a mere summary of the Ph.D. degrees conferred by the University of Chicago during its first five years.

I am surprised to see insinuations of this kind obtruded as 'University News.' Neither 'a student of science' nor a student of anything worth naming could 'fairly' indulge in such ambiguous reflections on the basis of figures which he does not understand, and while pretending merely to report 'University News.' Moreover, it seems difficult to assign a proper motive for the remark under any circumstances. Had the reporter, who poses as 'a student of science,' even a reading knowledge of zoology, he would have seen the impertinence of his query. Our zoological theses already published would be sufficient, I think, to 'fairly' satisfy any one qualified to understand them whether the 'preparation' here demanded is adequately 'exacting.' Graduate students from colleges and universities in good standing, who devote from three to five years to their theses, are entitled to be judged by the merits of their work, and are not 'fairly' open to disparaging conjectures on the part of uninformed reporters of university news.

If comments were in order in such a report, I should have supposed that the result of 'five years of graduate work' might have suggested something more appropriate than an invidious comparison between zoology and the classics.

What excuse for saying 'but *three* in Latin and Greek combined,' when Latin is not represented in the 'three' at all? The author thus insidiously seeks to give point to the suspicion which he casts in his query, realizing that the contrast between zoology and Greek alone was not quite excuse enough for his remark. To one desiring to represent things 'fairly,' what could be more obvious than that no such query

was permissible on the figures recorded for the first five years of the University's existence, when the different departments could not be supposed to be equally advanced in organization or to have begun work under equal conditions? What justice could there be, for example, in comparing the 3 in Greek with the 0 in Latin? Would 'a student of science' need to be told that no inference could be drawn from the bare numbers 3 and 0 in this case as to the standards of work upheld by the two departments? And what more senseless than to ask if the 0 indicates 'a less demand for teachers' or 'a less exacting preparation'?

It so happens that zoology has conferred eleven doctorates (the report of twelve is incorrect), nearly double the number in any other department. We are not ashamed of any of them, nor afraid of any just comparison. And while we take due pride in every one of them, it would be nothing less than contemptible to disparage any other department with a smaller record. There is reason for our larger number, but very remote from the suggestion so gratuitously offered by the reporter for SCIENCE. When we came to Chicago we brought with us five candidates for the Ph.D in zoology, some of whom had already spent three years on their research work while in Clark University. Our number for the five years in Chicago is thus to be considerably reduced for comparison with that of any other department. Other circumstances, which we need not here explain, would readily account for whatever differences remain.

If enough has not been said to show the absurdity of the comparison made in SCIENCE, and the injustice of disparaging comments based upon obviously insufficient data, then there is but one thing for this 'student of science' to do, and that is, to drop his study of science for the more humble occupation of learning some of the elements of common sense.

C. O. WHITMAN.

UNIVERSITY OF CHICAGO,

January 8, 1898.

[PROFESSOR WHITMAN rebukes the writer of the note in SCIENCE for lack of common sense by precept, but not by example. The sentence

complained of is as follows: "The student of science may fairly ask whether, when twelve doctorates are conferred in zoology and but three in Latin and Greek combined, this means that there is less demand for teachers of the classics or that a less exacting preparation is required." It seems difficult to interpret this in any other way than to the effect that if fewer doctorates are conferred in the classics than in the sciences then it follows that there are fewer adequately prepared teachers of the classics than of the sciences. We should not like to publish an unsigned note disparaging the classics—least of all the admirable instruction given in the classical languages at the University of Chicago—but it is proper for a scientific journal to call attention to the fact that more well-trained teachers and students have been sent out from the University of Chicago in zoology than in any other subject.—ED. SCIENCE.]

INFORMATION DESIRED.

I shall be greatly indebted to any reader of SCIENCE who will inform me of the whereabouts of a partial cranium of *Bison antiquus*, figured in the *Kansas University Quarterly* for July, 1897, and stated to be 'in a high school in Illinois.'

F. A. LUCAS.

WASHINGTON, D. C.

SCIENTIFIC LITERATURE.

A Text-Book of General Lichenology, with descriptions and figures of the genera occurring in the northeastern United States. By ALBERT SCHNEIDER, M.S., M.D., Fellow in Botany, Columbia University, 1894–1896. Binghamton, N. Y., Willard N. Clute & Company. 1897. 8vo. Pp. xvii+230. Pl. 76.

It is now several months since this important work first appeared, and doubtless many American botanists are already familiar with its contents. The author intended it primarily as a text-book for the use of students in colleges and universities, and it is not too much to say that, with all its faults, it is the only

modern work of its kind in the English language. The first chapter is devoted to the history of lichenology, in which seven periods are recognized, viz.: I. Theophrastus (circa 300 B. C.) to Tournefort (A. D. 1694). II. Tournefort to Micheli (1729). III. Micheli to Weber (1779). IV. Weber to Wallroth and Meyer (1825). V. Wallroth and Meyer to Schwendener (1868). VI. Schwendener to Reinke (1894). VII. Reinke to the close of 1896. This historical summary will be of interest to students, especially those who do not have access to the older works, which are conveniently cited in numerous footnotes. In this historical treatment the author has quite needlessly separated the last three years, a procedure due to his adherence to Reinke's somewhat confusing views as to the nature of lichens.

The second chapter deals with the subject of Symbiosis, including (a) antagonistic and (b) mutualistic symbiosis, the latter only, according to our author, occurring in lichens. This view, again, is inspired by Reinke.

The third, fourth and fifth chapters are devoted to the structure, growth and reproduction of lichens. To our mind this is the best part of the book, and the student who goes over these chapters carefully, while studying the plants themselves in the laboratory, will obtain a very good idea of the subject they treat, especially if, at the same time, he makes use of the text and plates of Part II., dealing with classification and special morphology. Regarding the latter it may be said that the text is far better than the plates for the purpose for which the book was prepared. The figures are almost entirely diagrammatic, in spite of the statement on page 110 that they were 'made from hand sections mounted in water (C. ocular, 1-5 objective, and camera lucida).' The student who is led to suppose that he may obtain sections like these will find himself sadly mistaken after making the attempt. As diagrams these figures will be helpful, but they should not be placed before the student as camera lucida drawings of actual sections. The text of this portion of the book possesses the merit of clear and direct statement, which is more than can be said of lichen litera-